

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of treating or preventing menorrhagia in a female individual, the method comprising administering to the a female individual at least one agent that prevents inhibits PGF_{2α}-mediated signaling of having its effect on the FP receptor.
2. (Currently Amended) A method according to Claim 1 wherein the agent that prevents inhibits PGF_{2α}-mediated signaling of having its effect on the FP receptor inhibits prevents or reduces the binding of PGF_{2α} to the FP receptor.
3. (Currently Amended) A method according to Claim 1 wherein the agent that prevents inhibits PGF_{2α}-mediated signaling of having its effect on the FP receptor affects the interaction between inhibits either PGF_{2α} and binding to the FP receptor, or the interaction between the FP receptor and the associated G_{αq} protein, thus inhibiting or disrupting a PGF_{2α}-FP mediated signal transduction pathway.
4. (Currently Amended) A method of treating menorrhagia in a female individual, the method comprising administering to a female individual an effective amount of according to any of Claim 1 wherein the agent is an antagonist of the FP receptor.
5. (Currently Amended) A method according to Claim 4 wherein the FP receptor antagonist is any one or more of PGF_{2α} dimethyl amide; PGF_{2α} dimethyl amine; AL-8810 ((5Z,13E)-(9S,11S,15R)-9,15-dihydroxy-11-fluoro-15-(2-indanyl)-16,17,18,19,20-pentanor-5,13-prostadienoic acid); AL-3138 (11-deoxy-16-fluoro PGF_{2α}); phloretin; glibenclamide; and ridogrel; PHG113; PCP-1 (rvkfkssqqhrqgrshhlem) (SEQ ID NO:1); PCP-2 (rkavlknyklasqcegvhvislhiwelssiknslkvaaisespvaeeksast) (SEQ ID NO:2); PCP-3 (elseeakearrindeierqlrrdkrdarre-NH₂) (SEQ ID NO:3); PCP-4 (kdttilqlnlkeynlv-NH₂) (SEQ ID NO:4); PCP-8 (ilghrdyk) (SEQ ID NO:5); PCP-10 (wedrfyll) (SEQ ID NO:6); PCP-13 (ILGHRDYK); PCP-14 (YQDRFYLL); (ILAHRDYK); PCP-13.7 (ILAHRDYK); PCP-13.8 (ILaHRDYK); PCP-13.11 (ILGFRDYK); PCP-13.13 (ILGHKDYK); PCP-13.14 (ILGHRNYK); PCP-13.18 (ILGHQDYK); PCP-13.20 (ILGHRDY-amide); PCP-13.21 (ILGHRDYK-amide); PCP-13.22 (ILGWRDYK); PCP-13.24 (ILGXRDYK); and PCP-15 (SNVLCSIE).
6. (Previously Presented) A method according to Claim 1 wherein the agent is an antagonist of PGF_{2α}.

7. (Withdrawn) A method according to Claim 6 wherein the PGF_{2α} antagonist is an anti-PGF_{2α} antibody.

8. (Withdrawn) A method according to Claim 1 further comprising administering to the individual one or more of an inhibitor of PGES and/or an antagonist of EP2 or EP4.

9. (Withdrawn) A method according to Claim 8 wherein the antagonist of EP2 or EP4 is AH6809, an omega-substituted prostaglandin E derivative, AH23848B, AH22921X, IFTSYECL (SEQ ID NO:7), IFASYECL (SEQ ID NO:8), IFTSAECL (SEQ ID NO:9), IFTSYEAL (SEQ ID NO:10), ILASYECL (SEQ ID NO:11), IFTSTDCL (SEQ ID NO:12), XTSYEAL (where X is 4-biphenyl alanine) (SEQ ID NO:13), XTSYEAL (where X is homophenyl alanine) (SEQ ID NO:14), a 5-thia-prostaglandin E derivative, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-chloro-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one potassium salt, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-methyl-3-furoyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-methyl-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, or 5-butyl-2,4-dihydro-4-[[2'-[N-[2-(methypyrrole)carbonyl]sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one.

10-13. (Cancelled)

14. (Withdrawn) A pharmaceutical composition comprising at least one agent that prevents PGF_{2α} having its effect on the FP receptor for treating or preventing menorrhagia in a female individual.

15. (Withdrawn) A pharmaceutical composition according to Claim 14 further comprising one or more of an inhibitor of PGES and/or an antagonist of EP2 or EP4.

16. (Withdrawn) A vaginal ring or a tampon or an intrauterine device comprising at least one agent that prevents PGF_{2α} having its effect on the FP receptor.

17. (Withdrawn) A vaginal ring or a tampon or an intrauterine device according to Claim 16 further comprising one or more of an inhibitor of PGES and/or an antagonist of EP2 or EP4.

18-19. (Cancelled)

20. (Withdrawn) A composition comprising at least one agent that prevents PGF_{2α} having its effect on the FP receptor, and one or more of an inhibitor of PGES and/or an antagonist of EP2 or EP4.

21. (Withdrawn) A pharmaceutical composition comprising at least one agent that prevents PGF_{2α} having its effect on the FP receptor, and one or more of an inhibitor of PGES and/or an antagonist of EP2 or EP4, and a pharmaceutically acceptable carrier.

22-23. (Cancelled)

24. (Withdrawn) A pharmaceutical composition according to Claim 14 wherein the agent that prevents PGF_{2α} having its effect on the FP receptor (i) prevents or reduces the binding of PGF_{2α} to the FP receptor, (ii) affects the interaction between PGF_{2α} and the FP receptor, or the interaction between the FP receptor and the associated G_{αq} protein, thus inhibiting or disrupting a PGF_{2α}-FP mediated signal transduction pathway, (iii) is an antagonist of the FP receptor, (iv) is an antagonist of PGF_{2α}, or (v) is an anti-PGF_{2α} antibody.

25. (Withdrawn) A pharmaceutical composition according to claim 14 wherein the agent that prevents PGF_{2α} having its effect on the FP receptor is an antagonist of the FP receptor is selected from the group of any one or more of PGF_{2α} dimethyl amide; PGF_{2α} dimethyl amine; AL-8810 ((5Z,13E)-(9S,11S,15R)-9,15-dihydroxy-11-fluoro-15-(2-indanyl)-16,17,18,19,20-pentanor-5,13-prostadienoic acid); AL-3138 (11-deoxy-16-fluoro PGF_{2α}); phloretin; glibenclamide; ridogrel; PHG113; PCP-1 (rvkfksqqhrqgrshhlem) (SEQ ID NO:1); PCP-2 (rkavlklnlyklasqccgvhvislhiwelssiknslkvaaisespvacksast) (SEQ ID NO:2); PCP-3 (clseecakearrindeierqlrrdkrdarre-NH₂) (SEQ ID NO:3); PCP-4 (kdttilqlnlkeynlv-NH₂) (SEQ ID NO:4); PCP-8 (ilghrdyk) (SEQ ID NO:5); PCP-10 (wedrfyll) (SEQ ID NO:6); PCP-13 (ILGHRDYK); PCP-14 (YQDRFYLL); (ILAHRDYK); PCP-13.7 (ILAHRDYK); PCP-13.8 (ILaHRDYK) ; PCP-13.11 (ILGFRDYK); PCP-13.13 (ILGHKDYK); PCP-13.14 (ILGHRNYK); PCP-13.18 (ILGHQDYK); PCP-13.20 (ILGHRDY-amide); PCP-13.21 (ILGHRDYK-amide); PCP-13.22 (ILGWRDYK); PCP-13.24 (ILGXRDYK); and PCP-15 (SNVLCSIF).

26. (Withdrawn) A vaginal ring or a tampon or an intrauterine device according to claim 16 wherein the at least one agent that prevents PGF_{2α} having its effect on the FP receptor (i) prevents or reduces the binding of PGF_{2α} to the FP receptor, (ii) affects the interaction between PGF_{2α} and the FP receptor, or the interaction between the FP receptor and the associated G_{αq} protein, thus inhibiting or disrupting a PGF_{2α}-FP mediated signal

transduction pathway, (iii) is an antagonist of the FP receptor, (iv) is an antagonist of PGF_{2 α} , or (v) is an anti-PGF_{2 α} antibody.

27. (Withdrawn) A vaginal ring or a tampon or an intrauterine device according to claim 16 wherein the agent that prevents PGF_{2 α} having its effect on the FP receptor is an antagonist of the FP receptor is selected from the group of any one or more of PGF_{2 α} dimethyl amide; PGF_{2 α} dimethyl amine; AL-8810 ((5Z,13E)-(9S,11S,15R)-9,15-dihydroxy-11-fluoro-15-(2-indanyl)-16,17,18,19,20-pentanor-5,13-prostadienoic acid); AL-3138 (11-deoxy-16-fluoro PGF_{2 α}); phloretin; glibenclamide; ridogrel; PHG113; PCP-1 (rvkfksqqhrqgrshhlem) (SEQ ID NO:1); PCP-2 (rkavlklnlyklasqccgvhvislhiwelssiknslkvaaisespvaeksast) (SEQ ID NO:2); PCP-3 (clseeakearrindeierqlrrdkrdarre-NH₂) (SEQ ID NO:3); PCP-4 (kdttilqlnlkeynlv-NH₂) (SEQ ID NO:4); PCP-8 (ilghrdyk) (SEQ ID NO:5); PCP-10 (wedrfyll) (SEQ ID NO:6); PCP-13 (ILGHRDYK); PCP-14 (YQDRFYLL); (ILAHRDYK); PCP-13.7 (ILAHRDYK); PCP-13.8 (ILaHRDYK) ; PCP-13.11 (ILGFRDYK); PCP-13.13 (ILGHKDYK); PCP-13.14 (ILGHRNYK); PCP-13.18 (ILGHQDYK); PCP-13.20 (ILGHRDY-amide); PCP-13.21 (ILGHRDYK-amide); PCP-13.22 (ILGWRDYK); PCP-13.24 (ILGXRDYK); and PCP-15 (SNVLCSIF).

28. (Withdrawn) A pharmaceutical composition according to Claim 15 wherein the antagonist of EP2 or EP4 is selected from the group of AH6809, an omega-substituted prostaglandin E derivative, AH23848B, AH22921X, IFTSYLECL (SEQ ID NO:7), IFASYECL (SEQ ID NO:8), IFTSAECL (SEQ ID NO:9), IFTSYEAL (SEQ ID NO:10), ILASYECL (SEQ ID NO:11), IFTSTDCL (SEQ ID NO:12), XTSYEAL (where X is 4-biphenyl alanine) (SEQ ID NO:13), XTSYEAL (where X is homophenyl alanine) (SEQ ID NO:14), a 5-thia-prostaglandin E derivative, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-chloro-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one potassium salt, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-methyl-3-furoyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-methyl-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, or 5-butyl-2,4-dihydro-4-[[2'-[N-[2-(methypyrrole)carbonyl]sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one.

29. (Withdrawn) A vaginal ring or a tampon or an intrauterine device according to claim 17 wherein the antagonist of EP2 or EP4 is selected from the group of AH6809, an omega-substituted prostaglandin E derivative, AH23848B, AH22921X, IFTSYLECL (SEQ ID NO:7), IFASYECL (SEQ ID NO:8), IFTSAECL (SEQ ID NO:9), IFTSYEAL (SEQ ID NO:10), ILASYECL (SEQ ID NO:11), IFTSTDCL (SEQ ID NO:12), XTSYEAL (where X is 4-biphenyl alanine) (SEQ ID NO:13), XTSYEAL (where X is homophenyl alanine) (SEQ ID NO:14), a 5-thia-prostaglandin E derivative, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-chloro-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one potassium salt, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-methyl-3-furoyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(3-methyl-2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, 5-butyl-2,4-dihydro-4-[[2'-[N-(2-thiophenecarbonyl)sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one, or 5-butyl-2,4-dihydro-4-[[2'-[N-(2-methypyrrole)carbonyl]sulfamoyl]biphenyl-4-yl]methyl]-2-{2-(trifluoromethyl)phenyl]-1,2,4-triazol-3-one.

30. (New) A method according to Claim 4 wherein the FP receptor antagonist is any one or more of PCP-1 (RVKFKSQQHQRQGRSHLEM) (SEQ ID NO:1); PCP-2 (RKAVLKNLYKLASQCCGVHVISLHIWELSSIKNSLKVAAISESPVAEKSAST) (SEQ ID NO:2); PCP-3 (CLSEEAKEARRINDEIERQLRRDKRDARRE-NH₂) (SEQ ID NO:3); PCP-4 (KDTILQLNLKEYNLV-NH₂) (SEQ ID NO:4); PCP-8 (ILGHRDYK) (SEQ ID NO:5); PCP-10 (WEDRFYLL) (SEQ ID NO:6); PCP-13 (ilghrdyk); PCP-14 (yqdrfyll); (ilahrdyk); PCP-13.7 (ilahrdyk); PCP-13.8 (ilAhrdyk); PCP-13.11 (ilgfrdyk); PCP-13.13 (ilghkdyk); PCP-13.14 (ilghrnyk); PCP-13.18 (ilghqdyk); PCP-13.20 (ilghrdy-amide); PCP-13.21 (ilghrdyk-amide); PCP-13.22 (ilgwrddy); PCP-13.24 (ilgxrdyk, where X is D-cyclohexylalanine); and PCP-15 (snvlcsif).